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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,229	04/14/2004	Keishi Inoue	09792909-5867	6345

26263 7590 05/16/2006

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EXAMINER
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DOAN, THERESA T

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6)

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/824,229	INOUE, KEISHI	
	Examiner	Art Unit	
	Theresa T. Doan	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. The Amendment filed on 03/03/06 has being acknowledged. The amendment of drawings is accepted. By this amendment, claims 6-7 are withdrawn and claims 1-5 are pending in the application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe et al. (U.S. Pub. 20030116852).

Regarding claim 1, Watanabe (Fig. 1) discloses a semiconductor device comprising:

a substrate 20 (paragraph [0061], lines 1-4);

a first insulation film 95 formed on the substrate 20 (paragraph [0061], lines 6-11);

a first conductive layer 36 formed on the substrate 20 (See Fig. 1 Labeled by Examiner below and paragraph [0064], lines 2-4);

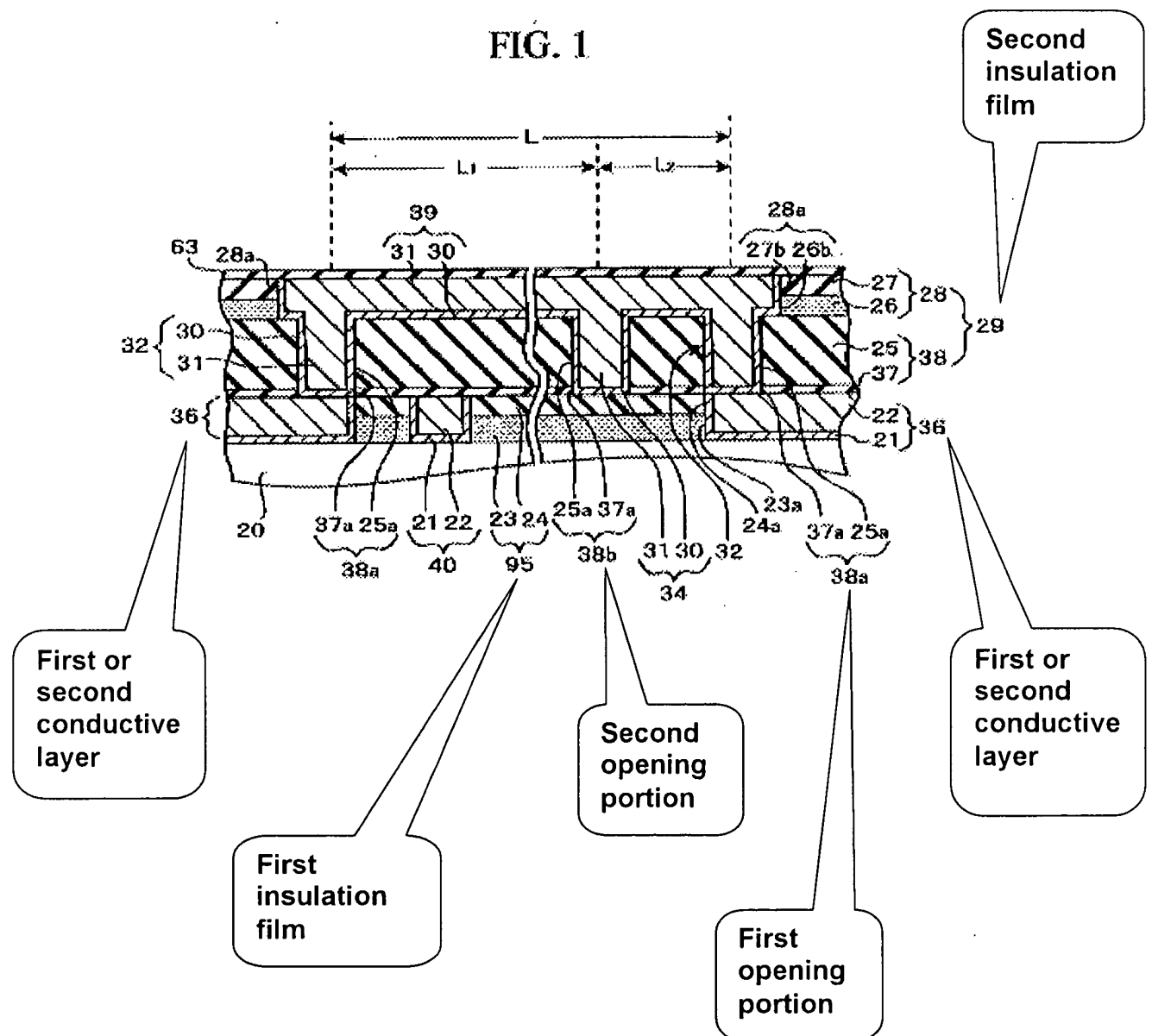
a second conductive layer 36 formed on the substrate 20 (also see Fig. 1 Labeled by Examiner below and paragraph [0064], lines 2-4) at a predetermined distance from the first conductive layer 36;

a second insulation film 29 (paragraph [0066]) formed on upper surfaces of the first and second conductive layers 36 and having a plurality of first opening portions (28a,38a) (paragraph [0067], lines 1-2) to expose either the first conductive layer 36 or the second conductive layer 36 and one or more second opening portions 38b to expose neither the first conductive layer nor second conductive layer 36 and expose the first insulating film 95; and

a third conductive layer 31 (paragraph [0068], lines 7-8) formed on an upper surface of the second insulation film 29 in such a manner to fill up the first opening portions (28a,38a) and the second opening portions 38b for making electrical connection between the first and second conductive layer 36 by way of the first opening portions (28a,38a);

wherein the second opening portions 38b are formed between a pair of the first opening portions (28a,38a) along the third conductive layer 31 (See Fig. 1 Labeled by the Examiner below).

FIG. 1



Regarding claim 2, Watanabe discloses that the second opening portions 38b are formed at a predetermined distance between the first opening portions (28a,38a).

Regarding claim 4, Watanabe (Fig. 1) discloses a semiconductor device comprising: a substrate 20 (paragraph [0061], lines 1-4); a first insulation film 95 formed on the substrate 20 (paragraph [0061], lines 6-11); a first conductive layer 36 formed on the substrate 20 (paragraph [0064], lines 2-4); a second conductive layer 36 formed on the substrate 20 (paragraph [0064], lines 2-4) at a predetermined distance from the first conductive layer 36; a second insulation film 29 (paragraph [0066]) formed on upper surfaces of the first and second conductive layers 36 and having a plurality of opening portions (28a,38a) and 38b (paragraph [0067], lines 1-6) to expose one end portion of the first conductive layer 36 or the second conductive layer 36 or the first insulating film 95; and

a third conductive layer 31 (paragraph [0068], lines 7-8) formed on an upper surface of the second insulation film 29 in such a manner to fill up the opening portions (28a,38a) and 38b for making electrical connection between the first and second conductive layer 36; wherein the third conductive layer 31 has a predetermined wiring length to maintain the connection, and has the electrical connection between the first and second conductive layer 36 at both ends of the third conductive layer 31 by way of the opening portions (28a,38a). It is noted that where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by

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identical or substantially identical processes, claimed properties or functions are presumed to be inherent. In re Best, 195 USPQ 430, 433 (CCPA 1977). Therefore, if the prior art teaches the identical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). In this case, the third conductive layer 31 would inherently have properties of maintaining the connection even if the length of the third conductive layer in a direction of longer length changes due to thermal expansion or contraction because the forming of a second opening portion 38b between the first opening portions (28a, 38a) would help to disperse the force resulting from the change in the wiring length of the third conductive layer 31.

Regarding claims 3 and 5, Watanabe discloses that the third conductive layer, which is formed by a conductive material containing copper (paragraph [0068], line 7).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant argues that Matsumoto fails to disclose the second opening portions exposing the first insulation film.

However, the new reference, issued to Watanabe, is applied in the new ground of rejection to show the invention as claimed. Specifically, Watanabe's Fig. 1 discloses

a forming of a second insulation film 29 having a plurality of first opening portions 38a and a second opening portion 38b formed therein. The first opening portions 38a expose first/second conductive layer 36 and the second opening portion 38b exposes a first insulating film 95 formed on a substrate 20.

The rest of applicant's arguments have been addressed to the amended claims are considered in the rejections shown above.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Doan whose telephone number is (571) 272-1704. The examiner can normally be reached on Monday to Friday from 7:00AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WAEL FAHMY can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Theresa Doan  
May 8, 2006.

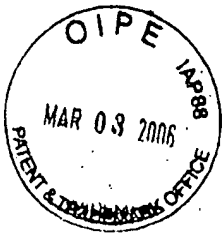


FIG. 10 PRIOR ART

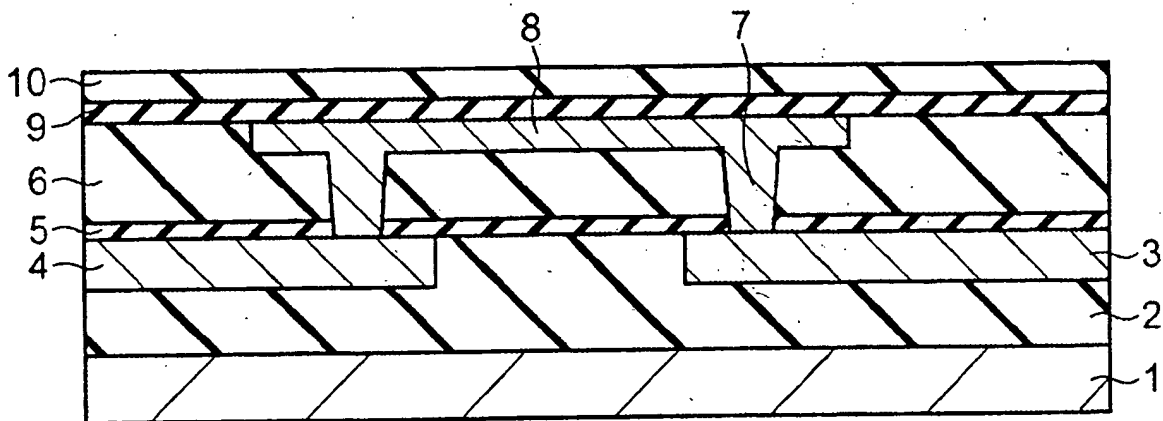


FIG. 11 PRIOR ART

